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**PATENT APPLICATION**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Keiichiro AOKI

Group Art Unit: 3747

Application No.: 10/574,925

Examiner: A. CASTRO

Filed: April 7, 2006

Docket No.: 127671

For: CONTROL SYSTEM FOR AN EXHAUST GAS SENSOR

**REQUEST FOR RECONSIDERATION**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In reply to the September 3, 2008 Office Action, please consider the following:

Claims 1-10 are pending in this application and claims 4-10 are withdrawn. In view of the following, reconsideration and allowance of the claims is respectfully requested.

**I. Allowable Subject Matter**

Applicant thanks the Examiner for the indication that claim 3 contains allowable subject matter, and that claim 3 would be allowable if amended to include the features of base claim 1. During the personal interview, as discussed below, the Examiner confirmed that claim 3 contains allowable subject matter.

**II. Personal Interview**

The courtesies extended to Applicant's representative by Examiner Castro at the interview held December 2, 2008, are appreciated. The reasons presented at the personal interview as warranting favorable action and allowance of at least independent claim 1, and the claims dependent therefrom, are incorporated into the remarks below, which constitute Applicant's separate record of the substance of the interview.

**III. Withdrawal of the May 8, 2008 Election of Species Requirement is Proper**

The May 8, 2008 Election of Species Requirement is improper because it is contrary to PCT rules. For example, Article 27 of the Patent Corporation Treaty requires that: "no national law shall require compliance with requirements relating to the form or contents of the international application different from or in addition to those which are provided for in this Treaty and the regulations."

Further, PCT Rule 13 requires that claims which encompass one single general inventive concept be searched and examined in the same international application. For example, PCT Rule 13.1 states: "the international application shall relate to one invention or to a group of inventions so linked as to form a single general inventive concept." In the present application, independent claims 1, 4-6 and 9 all encompass the inventive concept of an exhaust sensor control system for an exhaust sensor that is mounted in an exhaust path of an internal combustion engine, wherein the exhaust sensor includes a sensor element for generating an output in accordance with the status of an exhaust gas and a heater for heating said sensor element.

Furthermore, PCT Rule 13.4 expressly states that: "subject to Rule 13.1, it shall be permitted to include in the same international application a reasonable number of dependent claims claiming specific forms of the invention claimed in an independent claim, even where the features of any dependent claim could be considered as constituting in themselves an invention."

The Election of Species Requirement is a convention specific to U.S. National Patent Application Examination practice. PCT Rule 13.1 specifically contemplates the single examination of a group of inventions so linked as to form a single general inventive concept, and PCT Rule 13.4 specifically requires examination of species within a single general inventive concept. As such, the PCT rules do not permit issuing an Election of Species Requirement in this application. Any United States practice (such an Election of Species Requirement) or interpretation of the rule which is different from or in addition to the unity of

practice as delineated in PCT Unity Rules 13.1-13.4 is necessarily in violation of PCT Article 27. Species practice is not provided for under PCT Rules 13.1-13.4 and is contrary to PCT Article 27, and the present Election of Species Requirement is accordingly prohibited by Article 27.

The Examiner is respectfully requested to again reconsider and withdraw the Election of Species Requirement and to examine all of the species and claims in this application.

**IV. Claim Rejection under 35 U.S.C. §103**

The Office Action rejects claims 1 and 2 under 35 U.S.C. 103 (a) over JP Patent Publication No. 01-1257739 (Kazufumi). This rejection is respectfully traversed.

Independent claim 1 recites, in part, "heater control means for continuing power supply control over said heater until the exhaust gas temperature at the exhaust sensor drops below 80°C after the internal combustion engine is stopped."

Applicant respectfully submits that the applied art reference does not disclose or establish any reason to provide at least the above-recited features of independent claim 1. Kazufumi relates to preventing the fixing and depositing of carbon from the exhaust gas on a sensor electrode by holding a heater in an on-condition for a prescribed time after the engine has stopped (abstract).

Kazufumi discloses that the heater is left in the on-state until the temperature of the exhaust gas from the engine is reduced to a prescribed temperature, so as to eliminate the possibility of carbon sticking on the sensor (abstract). In an exhaust system, the carbon ingredient (melted carbon) of the exhaust gas can be cooled when it comes into contact with an electrode that has a lower temperature. Therefore, the invention disclosed in Kazufumi is geared toward preventing the carbon from being stacking on the electrode by heating the sensor. Kazufumi discloses that this arrangement makes it possible to prevent the reduction of measurement accuracy of the electrode and improve durability (abstract).

Applicant respectfully submits that the predetermined value for turning off the heater employed in Kazufumi must be a temperature that is much higher than 80 °C to avoid useless electric power consumption. First the temperature below which the carbon ingredient disappears from the exhaust gas is much higher than 80 °C. Moreover, as is well known in the art and discussed on page 3 of the Office Action, exhaust gas has a very high temperature. Therefore, in Kazufumi the exhaust gas itself has a very high temperature as it moves past the electrode part of the sensor. As such, it would at least not be necessary to operate the heater disclosed in Kazufumi in the vicinity of 80 °C.

For the reasons discussed above, Applicant respectfully submits that Kazufumi does not disclose, inherently disclose or render obvious the feature of "continuing power supply control over said heater until the exhaust gas temperature at the exhaust sensor drops below 80°C after the internal combustion engine is stopped," as recited in claim 1. Applicant further respectfully submits that a person of ordinary skill in the art would not modify Kazufumi to operate the heater in the vicinity of 80 °C, because it would result in useless power consumption.

The applied art reference does not disclose or establish any reason to provide the features recited in claim 1 for at least the reason discussed above. Therefore, the applied art reference fails to render obvious the subject matter of independent claim 1, and the claims dependent therefrom.

Accordingly, withdrawal of the rejection is respectfully requested.

**V. Conclusion**

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of the pending claims are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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JAO:AAT/ccs  
Date: December 3, 2008

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